

## **AMENDMENT TO CLAIMS**

All currently pending claims (claims 1-13) are hereby cancelled, and replaced by redrafted claims 14-23 as set forth in the enclosed listing of claims.

## **REMARKS**

All claims to surgical implants made of collagen (which will be gradually dissolved, after surgical implantation) are being cancelled in view of art that was located and cited by the Examiner, especially US Patent 6,080,194 (Pachence 2000). That art was not previously known to the Applicant or undersigned attorney, and the Examiner's efforts in locating and cited it are sincerely appreciated. Accordingly, the redrafted claims 14-23 that are enclosed herewith are explicitly limited to synthetic polymeric hydrogel materials.

An argument can be made that the Pachence '194 patent, issued in June 2000, was not effective prior art against the current application, which was filed in April 2000, before Pachence '194 was issued. However, the fact is that researchers in this field are recognizing that implants made of collagen are severely limited, and suffer from major shortcomings, including: (i) the risk of foreign proteins provoking an immune response, (ii) the need to use harsh and toxic chemicals to crosslink collagen fibers together, and (iii) problems involving debris that will be released during a transitional period, while the implant is being slowly dissolved and new cartilage is being formed.

Therefore, for the past several years, the Applicant has chosen to focus solely on synthetic polymers, rather than collagen. However, synthetic polymers pose their own set of challenges, especially when in the form of hydrogels, which are inherently weak and fragile, due to the fact that a large majority of their volume is made up of water molecules.

By means of diligent and ongoing efforts, the Applicant herein has managed to address and overcome those obstacles, one at a time, and his work has reached a point where he has now described, in detail, a complete and nonresorbable synthetic implant that appears capable of providing the strength and toughness required for literally decades of use, in a joint such as a knee, which is subject to high levels of loading, compression, stress, and wear. That recently enhanced implant has been described in provisional application 60/562,176, filed in April 2004, and in a Patent Cooperation Treaty application that was filed earlier this month, serial number PCT/US04/32504.

The Applicant realized, several years ago, that (i) cartilage-replacing implants with synthetic hydrogel polymer surfaces could and should be covered by a surface membrane, and, (ii) such surface membranes, on the surfaces of hydrogel polymers, can in fact be created, with no discontinuities in the underlying supporting structure that would create a planar interface that would create a "failure site" when the hydrogel is subjected to repeated stresses, by using chemical, temperature, or radiation treatment of a synthetic polymeric hydrogel polymer. That invention was set forth in the specification (such as on page 27, lines 5-20), which described methods of using chemical treatments, temperature treatments, or radiation treatments to create such surface coatings. Accordingly, it does not add new matter to this application, and it is now the subject of claims 14-27, newly submitted and enclosed herewith.

It should also be noted, in passing, that methods for creating certain specific types of chemically-treated surface membranes on synthetic hydrogel polymers have been described in more detail by the same Applicant herein, in an additional US utility application, serial number 10/677,444, filed on October 2, 2003, entitled, "IMPLANTS FOR REPLACING CARTILAGE, HAVING NEGATIVELY-CHARGED HYDROGEL SURFACES AND FLEXIBLE MATRIX REINFORCEMENT". As indicated by the title, one of the advances disclosed in that application was the discovery that if a negative charge is created on the outer surface of a hydrogel polymer, by means of a suitable chemical treatment such as sulfonation, then the hydrogel polymer will have better performance and durability. That particular advance was also described in the 60/562,176 and PCT/US04/32504 applications mentioned above.

There is extensive overlap between the '444 application and this current application, to an extent that led to confusion between the Applicant and the undersigned, when discussing "the membrane application". That misunderstanding is described in a "Statement of Facts" by the undersigned, which accompanies the petition to revive this application.

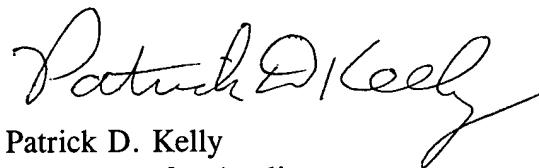
Despite that inadvertent error, the fact is that there are important differences between the breadth, scope, and details of the claim coverage between this current application, and the '444 application. Therefore, the Applicant is entitled to obtain both patents, given that the terms of both patents will not be extended, in any way, by the unintentional delay that was created by the misunderstanding between the Applicant and the undersigned.

Accordingly, it is requested that claims 14-23, as enclosed, be given proper and full examination, once this current application has been revived.

#### CONCLUSION

In view of these amendments and remarks, it is believed that the claims, as amended, are in condition for allowance. If any questions arise, please contact the undersigned attorney at 314-822-8558.

Respectfully submitted,

A handwritten signature in cursive script, reading "Patrick D. Kelly". The signature is written in dark ink and is positioned above the printed name and address.

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